

# FIRE STATION 31

SEATTLE DESIGN COMMISSION  
SCHEMATIC DESIGN PHASE REVIEW

# AGENDA

PROJECT OVERVIEW  
NEIGHBORHOOD & SITE CONTEXT  
COMMUNITY OPEN HOUSE & NEIGHBOR OUTREACH  
STAKEHOLDER ENGAGEMENT  
AGENCY UPDATES  
ARTIST SELECTION  
SUSTAINABILITY & MATERIALS  
SITE DESIGN  
BUILDING DESIGN

# DESIGN COMMISSION COMMENTS

CONCEPT PHASE DESIGN COMMISSION COMMENT		SECTION ADDRESSED
1.	Create a facility that is as transparent and welcoming as possible.	BUILDING DESIGN
2.	Activate the southern edge of the site and create a visual bridge from Meridian eastward.	SITE DESIGN
3.	Further explore buffering solutions to residential properties to the north, using grade, vegetation and building design.	SITE DESIGN & BUILDING DESIGN
4.	Solicit input from the neighbors closest to the site.	OPEN HOUSE & NEIGHBOR OUTREACH
5.	Continue to work with fire fighters in the design process, and evaluate scenarios with them.	STAKEHOLDER ENGAGEMENT
6.	Continue to design for a spectrum of users from various races, ages, and genders.	STAKEHOLDER ENGAGEMENT
7.	Continue to provide opportunities for the public to learn about and provide input both in person and virtually.	OPEN HOUSE & NEIGHBOR OUTREACH
8.	Develop a site story that encompasses the trees, slopes and buffers, to aid decision makers on the waivers from development standards.	SITE DESIGN
9.	Consider using the trees that are being removed as material for the building.	BUILDING DESIGN
10.	Continue the material investigation and initiative for less-toxic interiors.	SUSTAINABILITY & MATERIALS

# PROJECT OVERVIEW

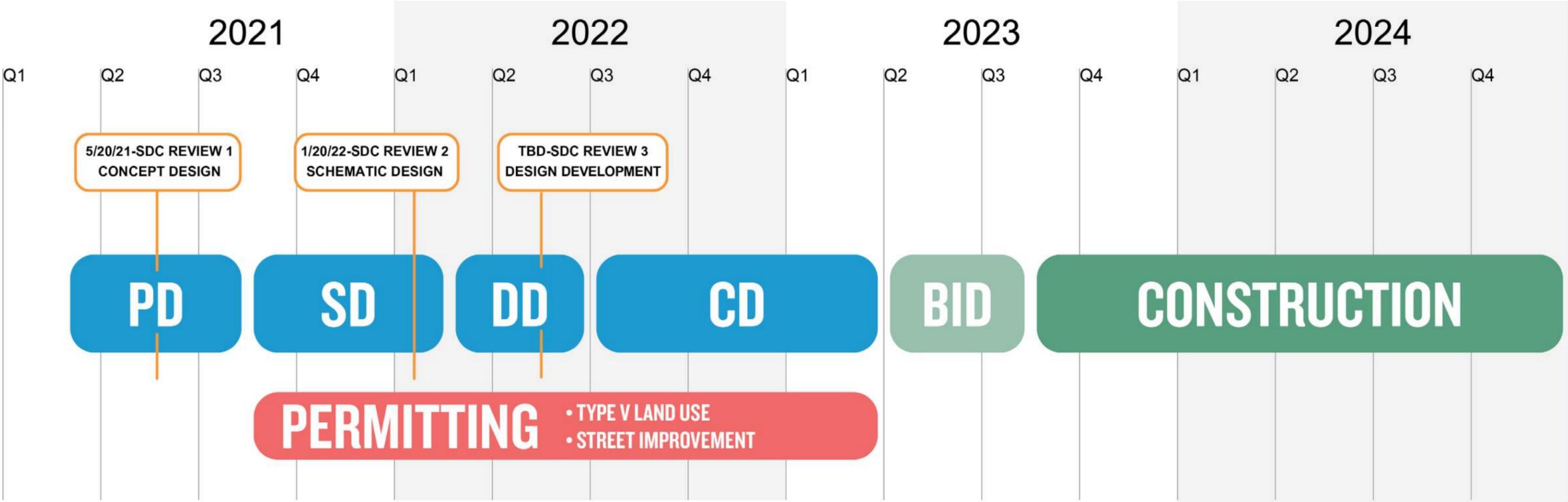


# PROJECT INFO

- Northgate Neighborhood
- North 113th Street & Meridian Ave North
- 30,000 SF Site Area
- 22,700 SF Proposed Building Area
- (13) Regular Crew
- (3) Mobile Integrated Health Unit Staff
- (4) Apparatus Bays
- LEED v4 Gold Certification
- Fossil Fuel Free



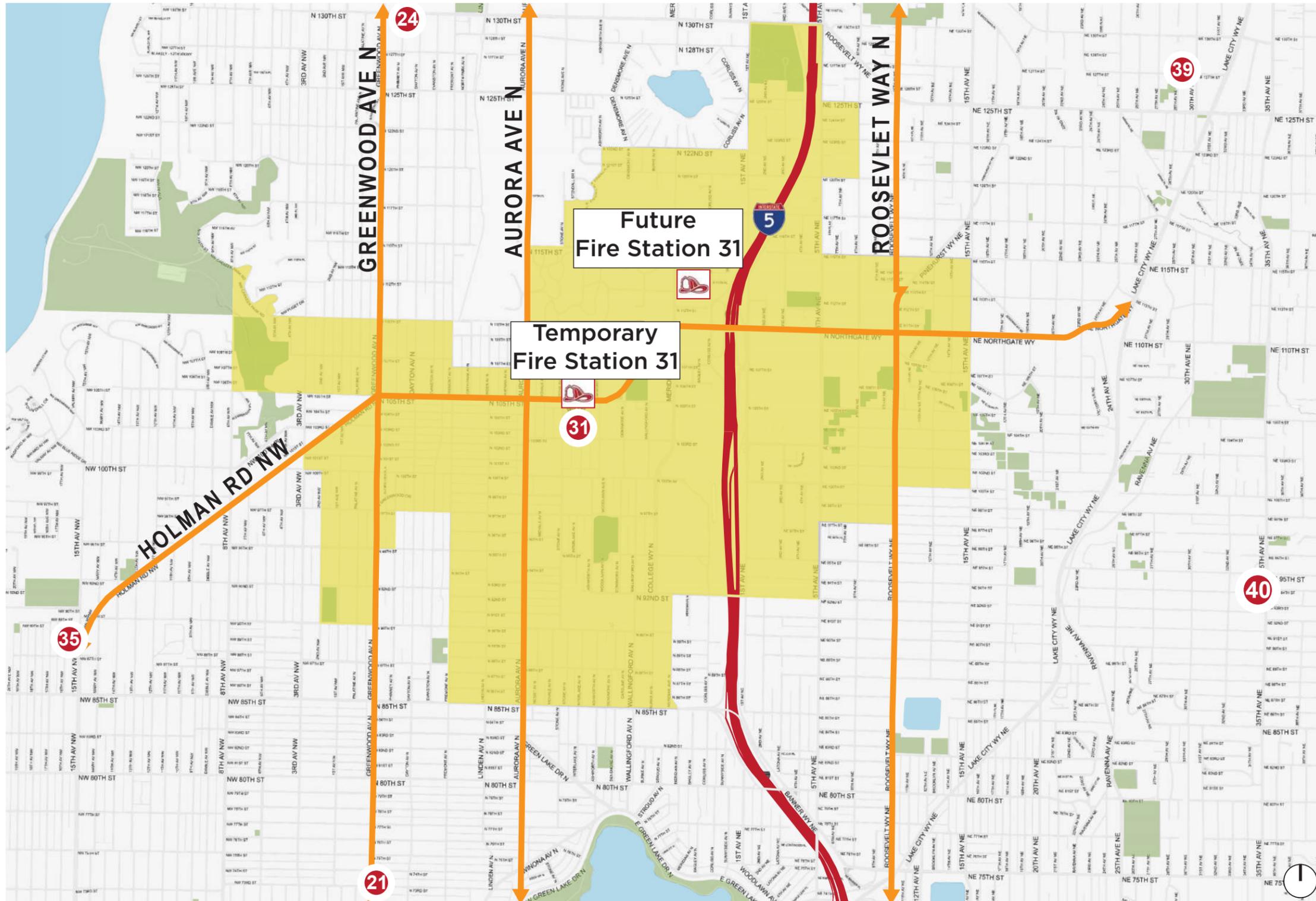
# SCHEDULE



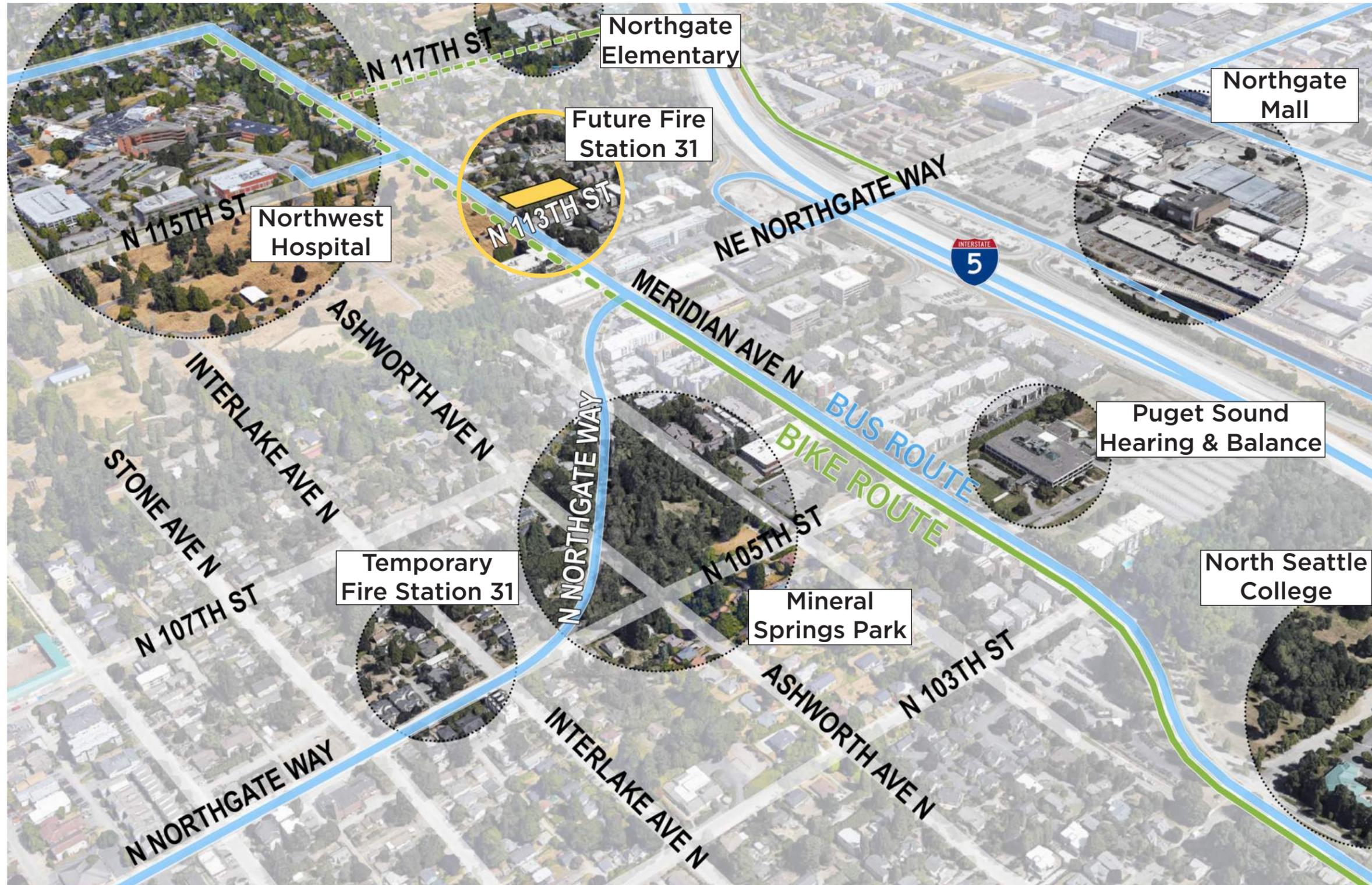
# NEIGHBORHOOD & SITE CONTEXT



# FIRE STATION 31 RESPONSE AREA



# NORTHGATE NEIGHBORHOOD



# NEIGHBORHOOD PHOTOS

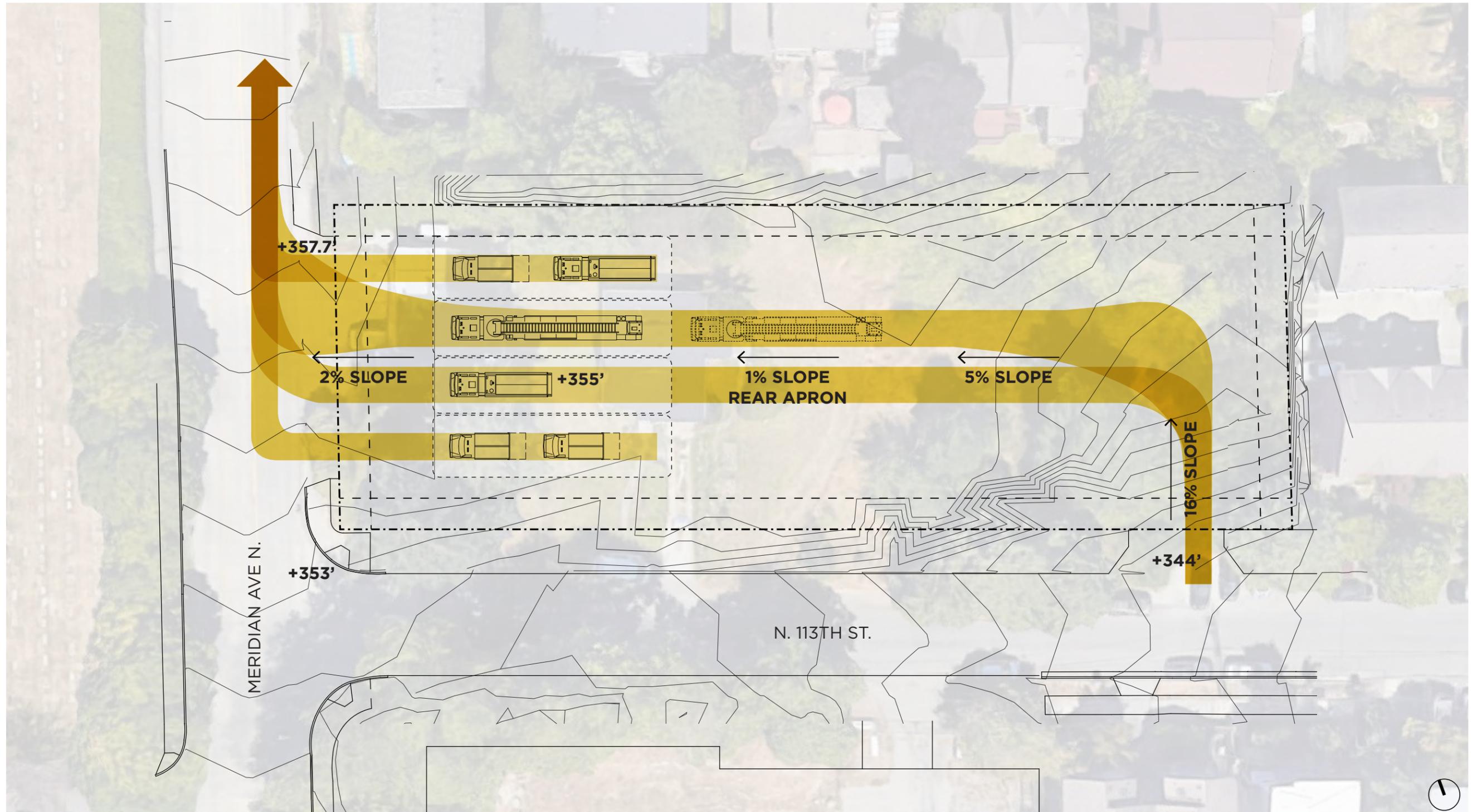


# VICINITY MAP



PROPERTY LINE      — — — — —  
PROPOSED BUILDING      —————

# SITE CONSTRAINTS



# OPEN HOUSE & NEIGHBOR OUTREACH



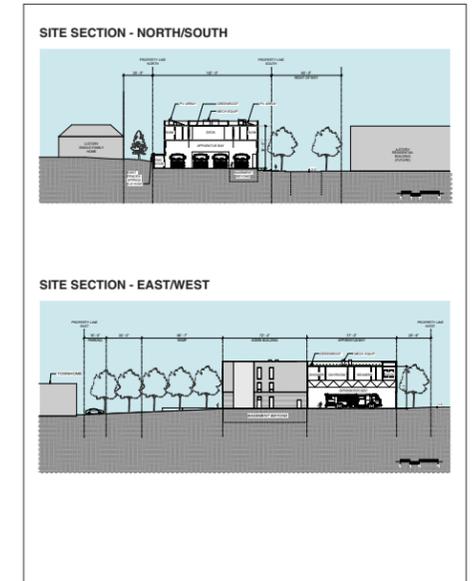
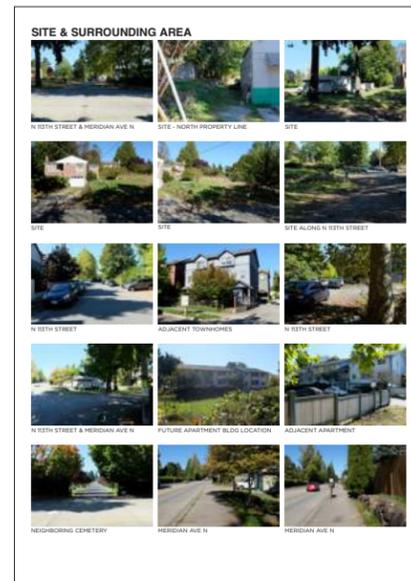
# COMMUNITY OPEN HOUSE

## FORMAT

- Virtual Project Update website only due to Covid-19 pandemic and Omicron variant
- Approximately 10 min recorded video presentation with translation services available
- Graphic boards and other information available on website
- Increases accessibility over in-person format at specific time and place

## VIDEO PRESENTATION TOPICS

- Introduction and Timeline
- Neighborhood and Context
- Design Goals
- Site Design
- Building Design



# NEIGHBOR OUTREACH

- Three most proximal neighbors to the North
- Discussed potential tree impacts and restoration
- Discussed construction impacts



# STAKEHOLDER ENGAGEMENT



# STAKEHOLDER ENGAGEMENT

## **SD Fire Workshop 1 - 10/11/2021**

- Floor Plan Options and Massing
- Site Grading
- Fire Pole Transfer Concept

## **SD Fire Workshop 2 - 10/21/2021**

- Apparatus Maneuvering Analysis
- Landscape Design
- Greenfactor Strategies

## **SD Fire Workshop 3 - 11/17/2021**

- SDCI and SDOT Updates
- Structural and Circulation Plan Updates
- Mechanical and Plumbing Elements
- Exterior Building Design Updates

## **SD Fire Workshop 4 - 12/8/2021**

- Heated Driveway
- Lighting Design Kickoff
- Beanery Layout Options
- Signalization Options

## **SD Fire Workshop 5 - 1/12/2021**

- Floor Plan Updates
- Exterior Building Design Updates
- Schedule Updates
- Owner Coordination Items

## **Facility Operations Workshop - 11/17/2021**

- Sustainable Systems and Design Elements
- Stormwater Design Strategy
- Rainwater Harvesting System Discussion
- Mechanical and Plumbing Design Strategies
- Controls Design Kickoff and Parameters

## **Seattle IT Workshop - 11/18/2021**

- Bringing City Fiber to Site
- MDF Room Requirements
- Access Controls Planning
- Alerting System Planning
- Audio-Visual Needs
- Fire Alarm Planning

# AGENCY UPDATES



**Seattle**



# AGENCY MEETINGS

## **SDOT 30% Street Improvement Permit Corrections Review - 11/10/2021**

- Sidewalk and planting strip configuration along N 113th Street
- New established roadway width at N 113th Street
- Driveways and trash enclosure access
- Process for signal planning and design

## **SDCI Land Use Pre-Submittal Conference - 11/10/2021**

- Project overview and schedule
- Design Commission coordination with MUP Process (Valerie Kinast)
- Seattle City Light coordination and service application (Ray Ramos)
- SDOT coordination and 30% Street Improvement Permit submittal (Jackson Keenan Koch)
- City Council Type V process coordination (Keetil Freeman)

## **SCL Electrical Service Application Processing - 1/5/2022**

- Application for service submitted on 12/20/2021
- On-site Pre-Application meeting with engineering scheduled for 1/21/2022

# LAND USE CODE SUMMARY

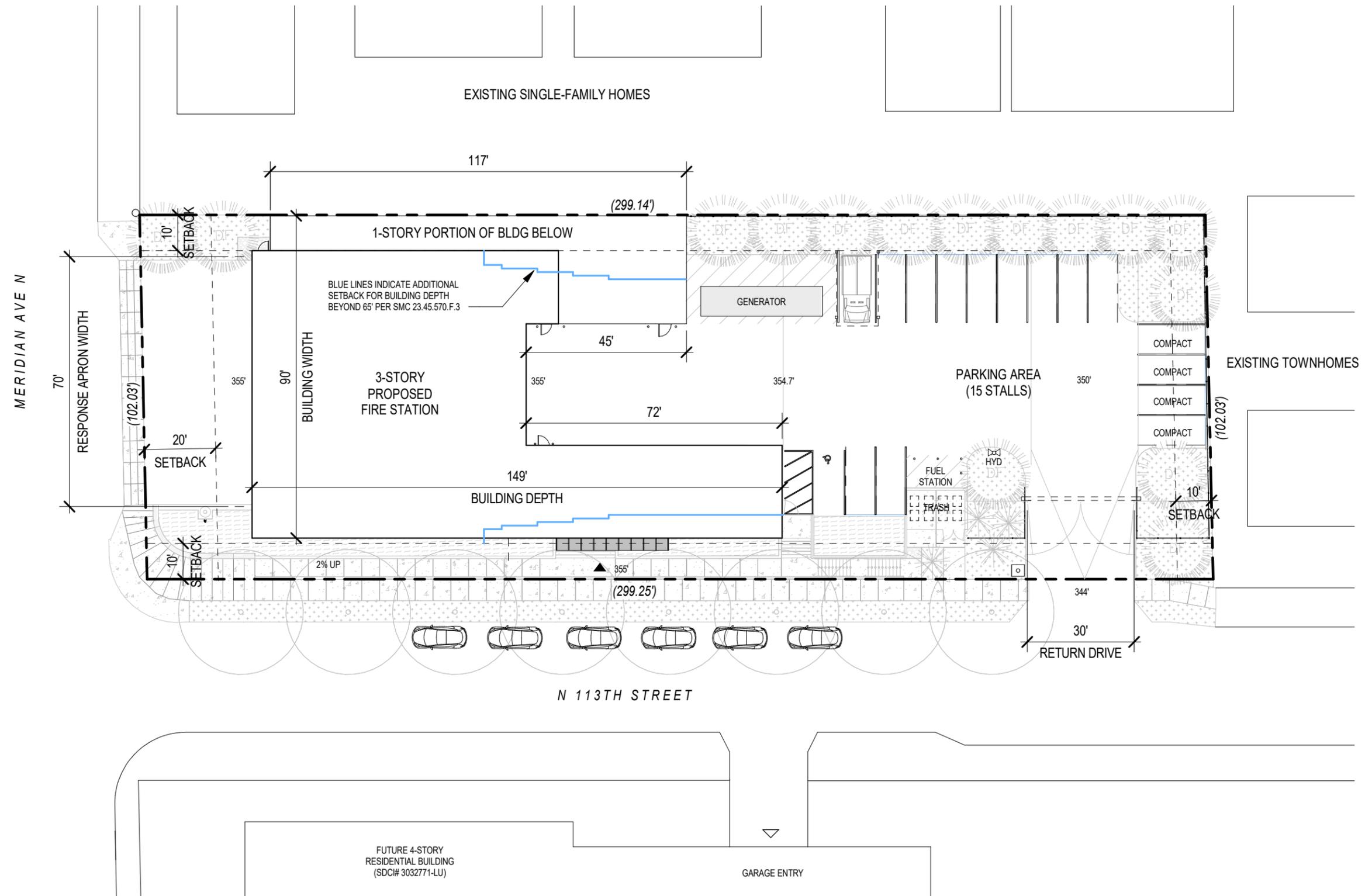
## SMC 23.45.570 Requirements

- Per SMC 23.51A.004, the primary section governing development standards for this project is SMC 23.45.570. Project is anticipated to **COMPLY** with all requirements for structure height (C), structure width (D), structure depth (E), front (F.1) and rear (F.2) setbacks, setbacks for specific items (F.4), parking (G), odors (H), and light and glare (I).

## Anticipated Departures Needed

- SMC 23.45.570.F.3 - Side Setbacks at North property line and South property line
- SMC 23.54.030.F.2.b.4 - Curb Cut Widths
- SMC 25.11.070 - Tree Protection

# CURB CUTS AND SIDE SETBACKS



# ARBORIST REPORTS

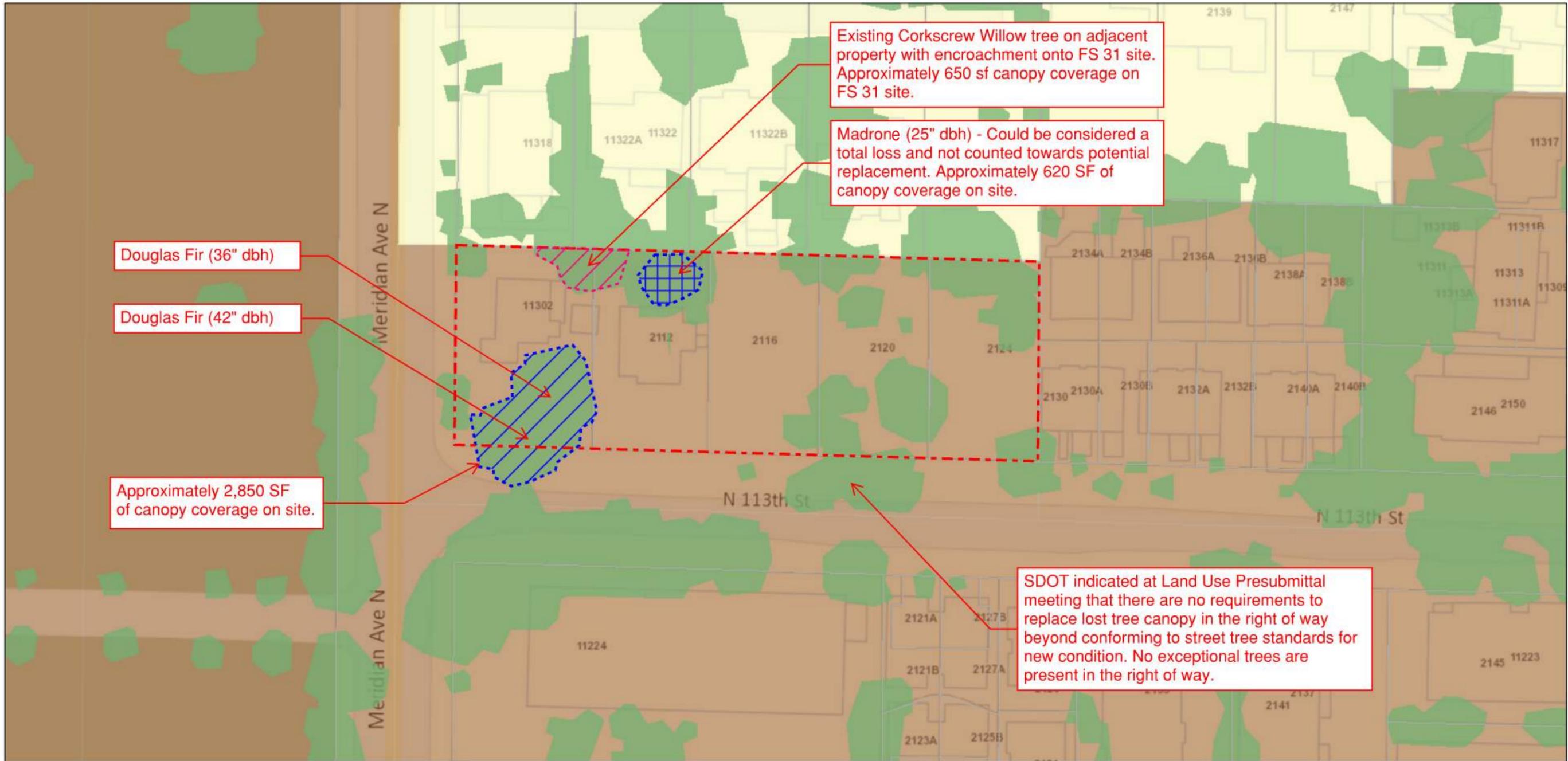
## Arborist Report Prepared by Douglas Smith of Seattle Tree Consulting - 2/7/2020

- (3) Total Exceptional Trees Identified
- Douglas Fir - 42" DBH, 30' DLR, Condition 1 (Good), may have been topped and regrown with single leader
- Douglas Fir - 36" DBH, 30' DLR, Condition 2 (Acceptable), topped and regrown multiples iterations
- Madrona - 25" DBH, 25' DLR, Condition 3 (Declining), good structure, but excessive dead wood and minimal live foliage

## Arborist Findings by Douglas Smith of Seattle Tree Consulting - 11/18/2021

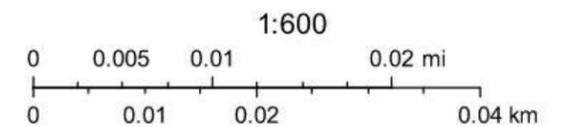
- Multiple small not-"exceptional", not-"significant" trees are present at the properties to the North of the proposed building. These trees have driplines that do not extend, or barely extend, onto the Fire Station 31 property, and will not be impacted by the anticipated building footprint.
- At 11322 A Meridian Ave North there is one "significant" Corkscrew Willow, 21" DBH. This tree should be assigned a critical root zone diameter of 20' based on species and condition, and thus should not be affected by the project. This is a non-native tree that could be removed and replaced without a permit if desired.

# TREE REPLACEMENT ANALYSIS



11/11/2021, 10:31:08 AM

Parcels  
Tree Canopy Coverage



# TREE REPLACEMENT PROPOSAL

- All three exceptional trees on-site must be removed to accommodate the operational footprint and needs of the new essential public safety facility.
- Project is currently vetting with SDCI replacement of equivalent canopy at another City-owned site.
- One possibility is the North Precinct site at 10049 College Way North, which has a wetland area whose habitat potential could benefit from the addition of a diversity of new plant types. Replacement at this location would also avoid the need for permanent or temporary irrigation systems to establish and maintain the trees.
- Options will continue to be studied in Design Development following input from SDCI.



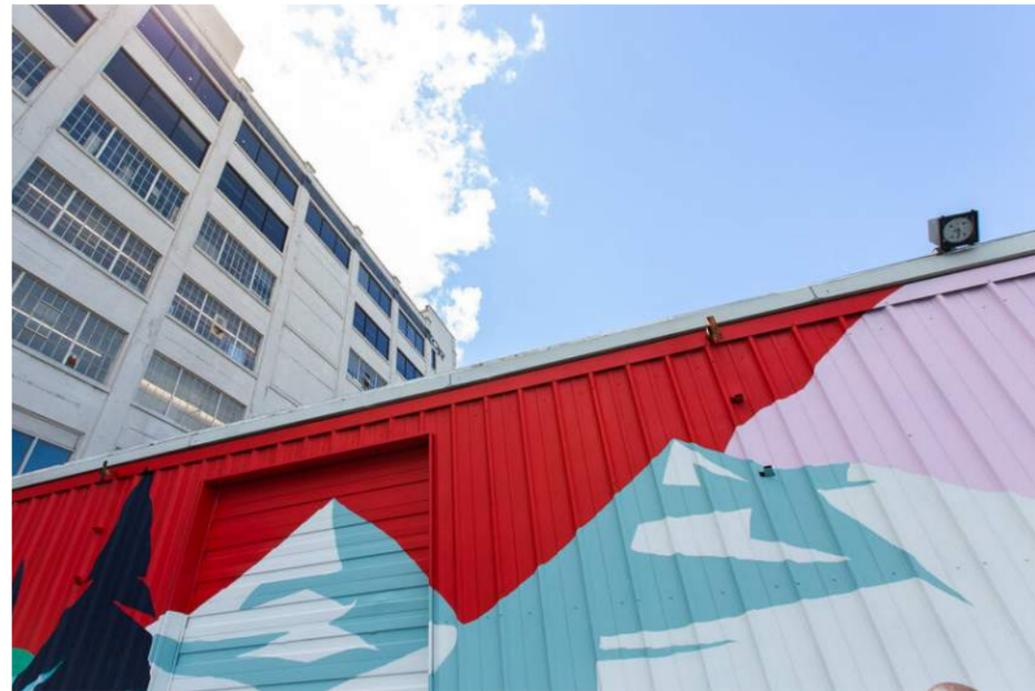
# ARTIST SELECTION



# DAMON BROWN - "CREATIVE LOU"



*I am a Seattle-based artist who, from an early age, knew I loved art and creating new designs. I drew inspiration from comic books as I spent countless hours exploring different images and heroic storylines which opened my eyes to artistic creation. As my imagination grew, I began to study various art movements, illustration styles, and urban art. This, in turn, taught to me how things like color, shape, story, and texture can manifest into something so vivid for people to feel and see. I was then able to blend my love for classical art and illustration. - Damon Brown*

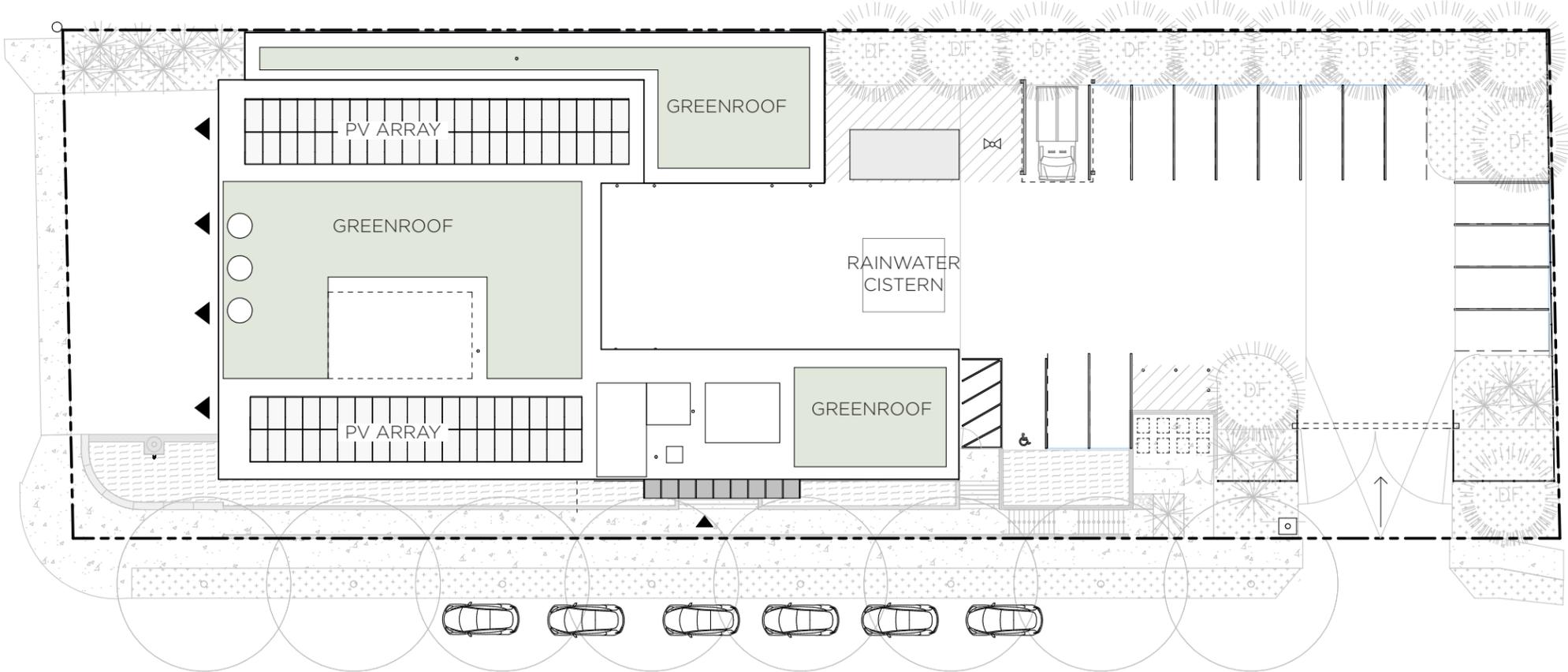


# SUSTAINABILITY & MATERIALS



# SUSTAINABILITY OVERVIEW

- LEED v4 Gold Certification
- Fossil Fuel-Free Facility
- Healthy Materials
- Large Photovoltaic Array
- Rainwater Harvesting for Flushing
- Stormwater Bioretention Facilities
- Tightly-Zoned Ventilation Concept
- Refrigerant-Free Heating & Cooling System

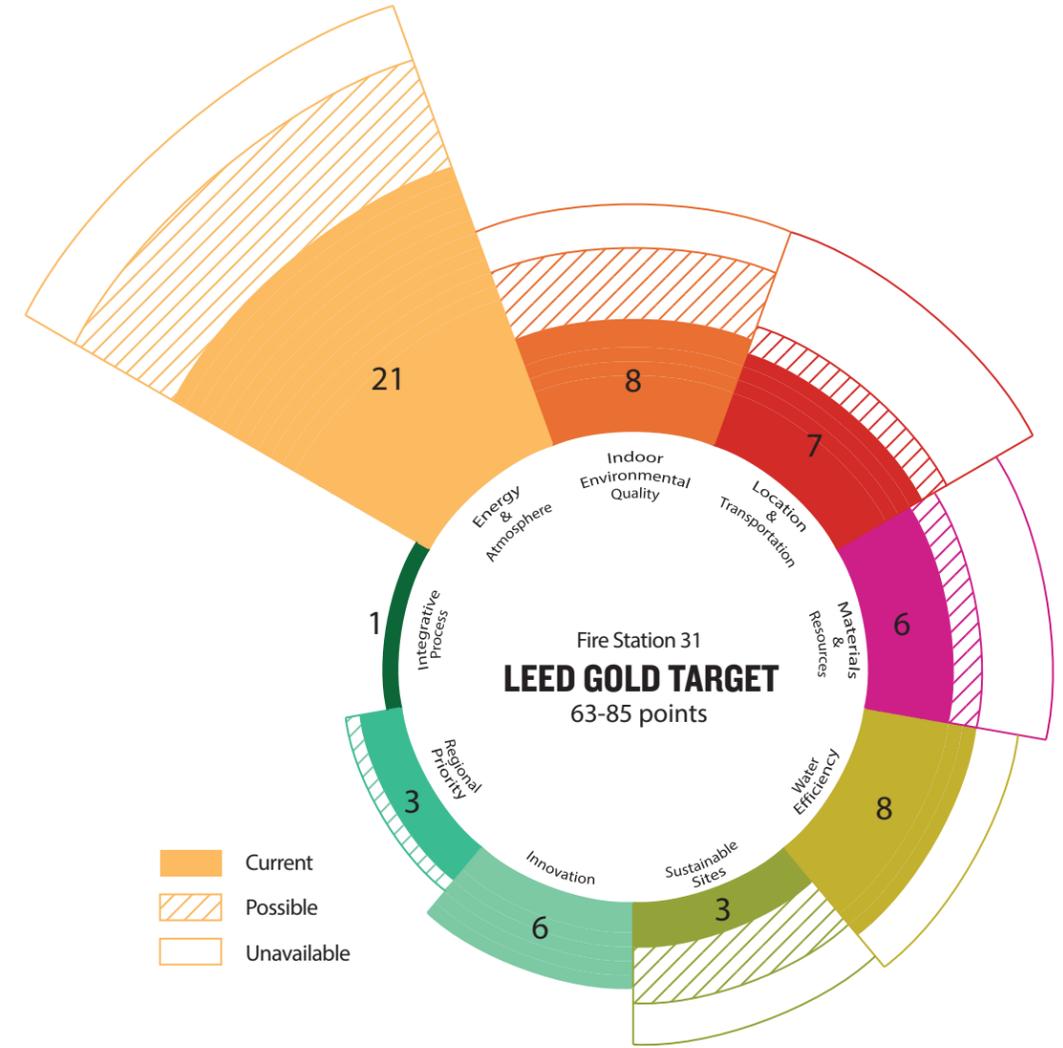


# LEED v4 GOLD CERTIFICATION

FS31

LEED-NC v4 Scorecard

Yes	?	No	Max Pts.	
63	22	25	110	<b>Project Totals (pre-certification estimates)</b>
Certified 40-49 points Silver 50-59 points Gold 60-79 points Platinum 80 or more points				
1			1	<b>Integrative Process</b>
7	2	7	16	<b>Location and Transportation</b>
		n/a	16	Credit <b>LEED for Neighborhood Development Location OR</b>
1			1	Credit <b>Sensitive Land Protection</b>
2			2	Credit <b>High Priority Site</b>
3	2		5	Credit <b>Surrounding Density and Diverse Uses</b>
		5	5	Credit <b>Access to Quality Transit</b>
		1	1	Credit <b>Bicycle Facilities</b>
		1	1	Credit <b>Reduced Parking Footprint</b>
1			1	Credit <b>Green Vehicles</b>
3	4	3	10	<b>Sustainable Sites</b>
Y				Prereq. <b>Construction Activity Pollution Prevention</b>
	1		1	Credit <b>Site Assessment</b>
	2		2	Credit <b>Site Development, Protect or Restore Habitat</b>
	1		1	Credit <b>Open Space</b>
		3	3	Credit <b>Rainwater Management</b>
2			2	Credit <b>Heat Island Reduction</b>
1			1	Credit <b>Light Pollution Reduction</b>
8		3	11	<b>Water Efficiency</b>
Y				Prereq. <b>Outdoor Water Use Reduction</b>
Y				Prereq. <b>Indoor Water Use Reduction</b>
Y				Prereq. <b>Building-Level Water Metering</b>
1		1	2	Credit <b>Outdoor Water Use Reduction</b>
6			6	Credit <b>Indoor Water Use Reduction</b>
		2	2	Credit <b>Cooling Tower Water Use</b>
1			1	Credit <b>Water Metering</b>
6			6	<b>Innovation in Design</b>
1			1	Credit <b>Innovation in Design: Equity? Gender Neutral bath</b>
1			1	Credit <b>Innovation in Design: Sustainable Wastewater Man</b>
1			1	Credit <b>Innovation in Design: O&amp;M Toolkit?</b>
1			1	Credit <b>Pilot: Social Equity in the Project Team</b>
1			1	Credit <b>TBD</b>
1			1	Credit <b>LEED® Accredited Professional</b>
21	8	4	33	<b>Energy &amp; Atmosphere</b>
Y				Prereq. <b>Fundamental Commissioning and Verification</b>
Y				Prereq. <b>Minimum Energy Performance</b>
Y				Prereq. <b>Building-Level Energy Metering</b>
Y				Prereq. <b>Fundamental Refrigerant Management</b>
6			6	Credit <b>Enhanced Commissioning</b>
12	6		18	Credit <b>Optimize Energy Performance</b>
1			1	Credit <b>Advanced Energy Metering</b>
		2	2	Credit <b>Demand Response</b>
1	2		3	Credit <b>Renewable Energy Production</b>
1			1	Credit <b>Enhanced Refrigerant Management</b>
		2	2	Credit <b>Green Power and Carbon Offsets</b>
6	2	5	13	<b>Materials &amp; Resources</b>
Y				Prereq. <b>Storage and Collection of Recyclables</b>
Y				Prereq. <b>Construction and Demolition Waste Management Planning</b>
1	2	2	5	Credit <b>Building Life-Cycle Impact Reduction</b>
1		1	2	Credit <b>Building Product Disclosure &amp; Optimization - EPDs</b>
1		1	2	Credit <b>Building Product Disclosure &amp; Optimization - Sourcing</b>
1		1	2	Credit <b>Building Product Disclosure &amp; Optimization - Material Ingredients</b>
2			2	Credit <b>Construction and Demolition Waste Management</b>
8	5	3	16	<b>Indoor Environmental Quality</b>
Y				Prereq. <b>Minimum IAQ Performance</b>
Y				Prereq. <b>Environmental Tobacco Smoke (ETS) Control</b>
2			2	Credit <b>Enhanced Indoor Air Quality Strategies</b>
3			3	Credit <b>Low-Emitting Materials</b>
1			1	Credit <b>Construction Indoor Air Quality Management Plan</b>
	2		2	Credit <b>Indoor Air Quality Assessment</b>
1			1	Credit <b>Thermal Comfort</b>
1		1	2	Credit <b>Interior Lighting</b>
	1	2	3	Credit <b>Daylight</b>
	1		1	Credit <b>Quality Views</b>
	1		1	Credit <b>Acoustic Performance</b>
3	1		4	<b>Regional Priority</b>
3	1		4	Credit <b>Regional Priority</b>



# HEALTHY MATERIALS

- Eliminate all building materials that include chemicals on the Miller Hull Red List

**Asbestos**



**Lead**



**Mercury**



**PFAS**



**APE's**



**Wood Treatments**



**PVC**



**Flame Retardants**



**Chromium 6**



**Phthalates**



**Formaldehyde**



**BPA**



# HEALTHY MATERIALS

- Research and endeavor to eliminate additional contaminants as identified in the Washington State Council of Firefighters’ “Healthy In, Healthy Out” manual

**INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) CONTAMINANTS & CLASSIFICATIONS**

CONTAMINANT	NOTE
<b>Acetaldehyde</b>	IARC Group 2B carcinogens
<b>Acrolein</b>	IARC Group 3 carcinogens
<b>Aniline</b>	IARC Group 3 carcinogens
<b>Antimony compounds</b>	Toxicity similar to arsenic poisoning
<b>Arsenic</b>	IARC Group 1 Carcinogens, endocrine disruptor
<b>Benzene</b>	IARC Group 1 Carcinogens
<b>Beryllium compounds</b>	IARC Group 1 Carcinogens
<b>1,3-Butadiene</b>	IARC Group 2A carcinogens
<b>Cadmium</b>	IARC Group 1 Carcinogens, endocrine disruptor
<b>Dibutyl phthalate</b>	Endocrine disruptor

<b>1,8-dinitropyrene</b>	Sufficient evidence in experimental animals
<b>Dioxins and dibenzofurans</b>	Are suspected human carcinogens
<b>Formaldehyde</b>	IARC Group 1 Carcinogens
<b>Mercury compounds</b>	IARC Group 3 carcinogens
<b>Naphthalene</b>	IARC Group 2B carcinogens
<b>Nickel</b>	IARC Group 2B carcinogens
<b>3-Nitrobenzanthrone</b>	One of the strongest carcinogens known
<b>Benzo(e)pyrene</b>	IARC group 3 carcinogens
<b>Benzo(a)pyrene</b>	IARC Group 1 carcinogen
<b>Styrene</b>	IARC Group 2B carcinogens
<b>Toluene</b>	IARC Group 3 carcinogens
<b>Xylene isomers and mixtures: o-xylenes, m-xylenes, p-xylenes</b>	IARC Group 3 carcinogens

# DESIGN DRIVERS

## FIREFIGHTER HEALTH

- Effective contaminant control
- Thermal comfort and adjustability
- Daylight spaces for work
- Maximize quality of sleep through thoughtful lighting, alerting and acoustical design
- Reduce chemicals of concern in building materials to greatest extent feasible
- Design site and building for maximum physical and operational safety

## SUSTAINABILITY

- Low operational energy use
- Low embodied carbon
- Water reuse

## OPERATIONS

- Every aspect of design serves to minimize response time
- Maximize apparatus maneuverability and minimize conflicts with other vehicle and pedestrians
- Specify low maintenance materials, systems, and landscaping
- Prioritize life cycle cost over first cost
- Ensure appropriate facility security

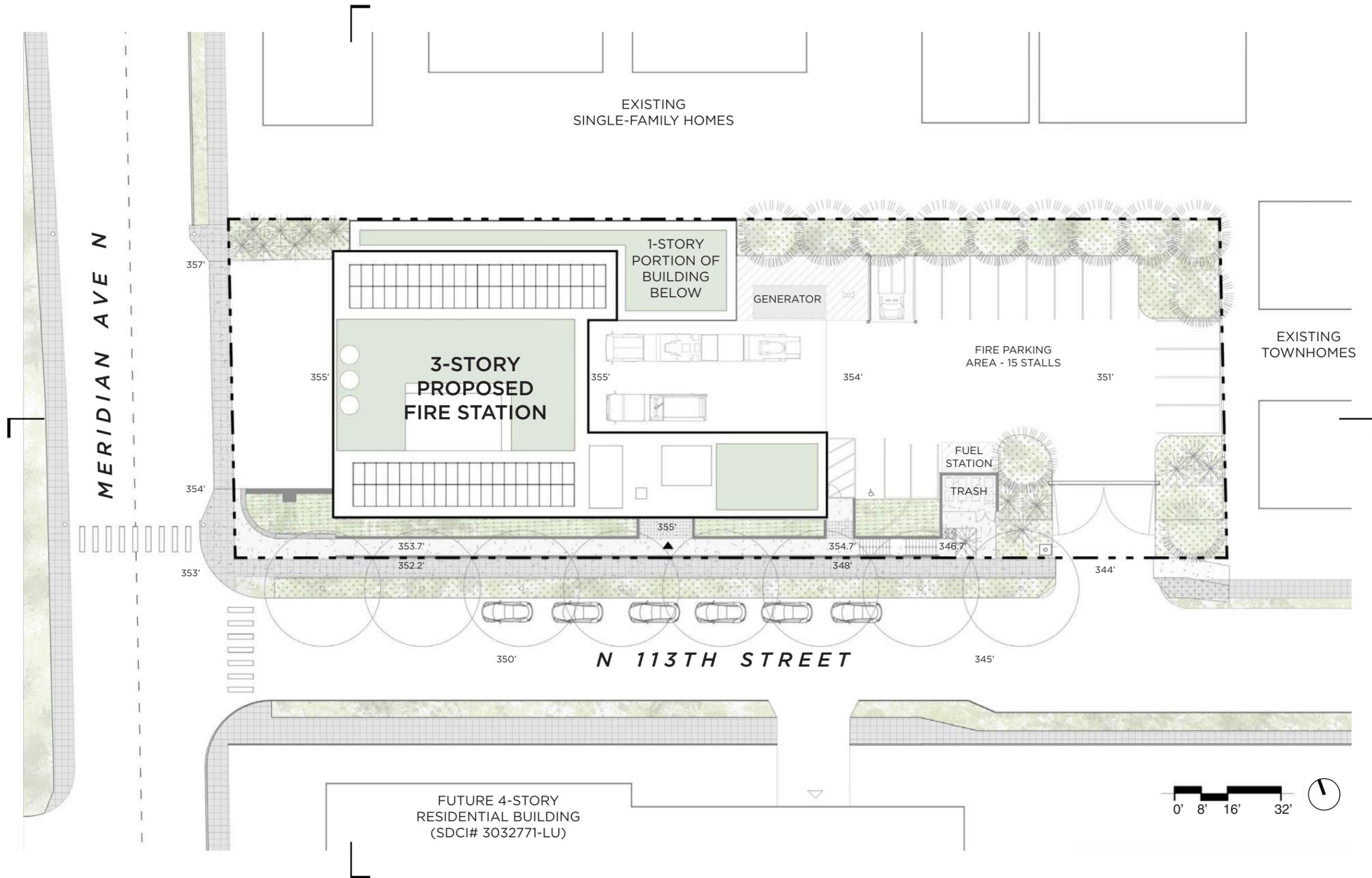
## EQUITY

- Diverse stakeholder engagement
- Community engagement

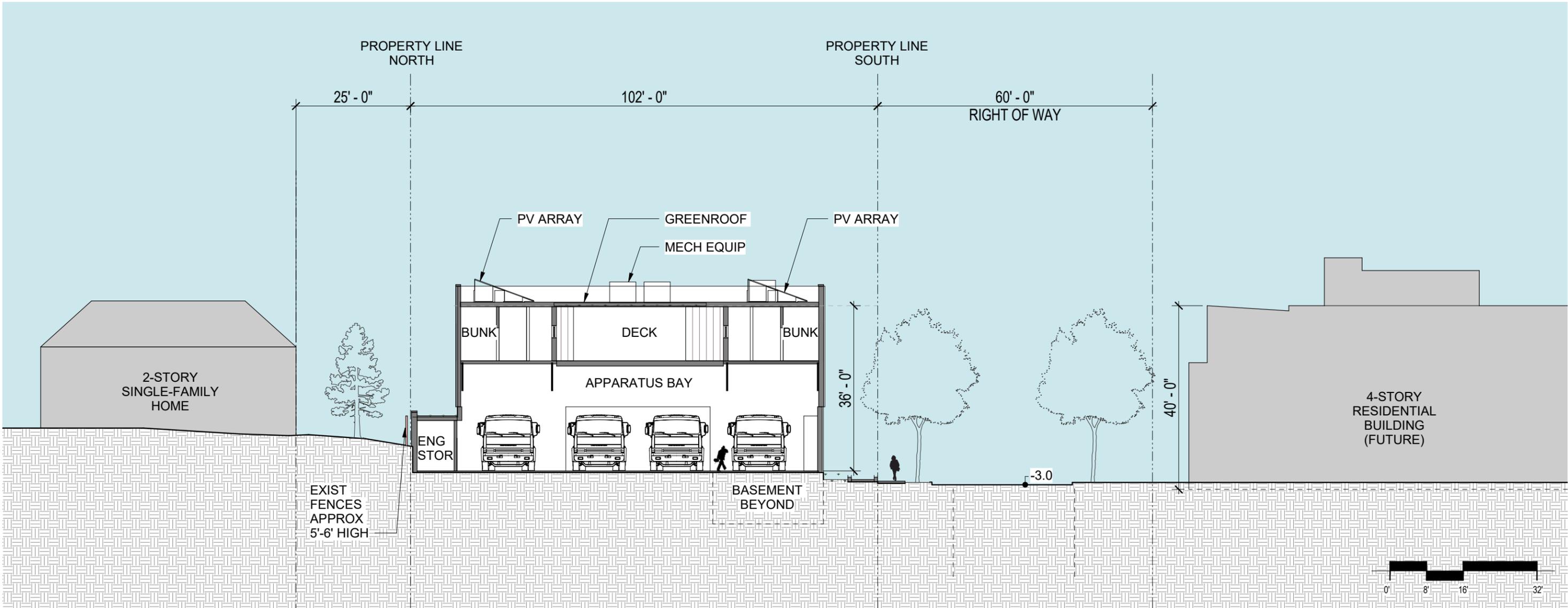
# SITE DESIGN



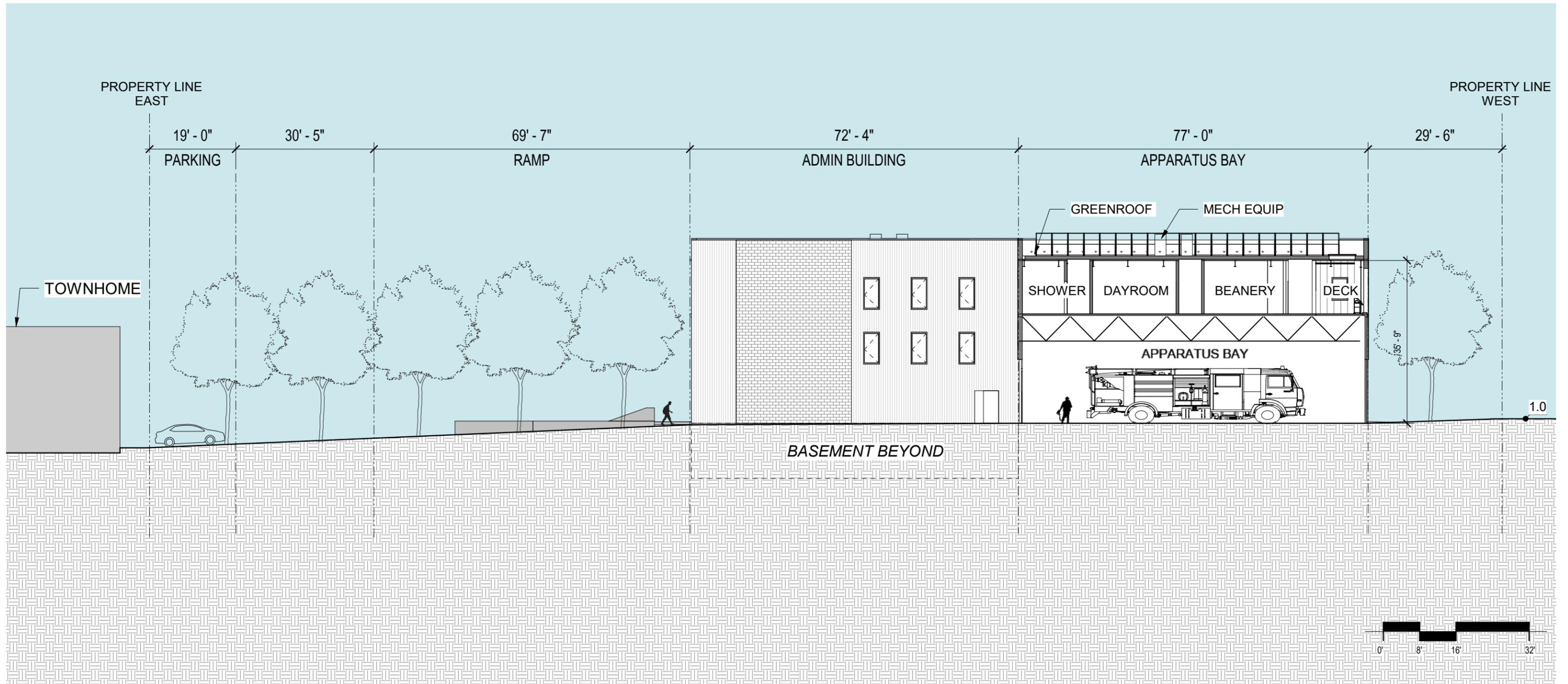
# SITE PLAN



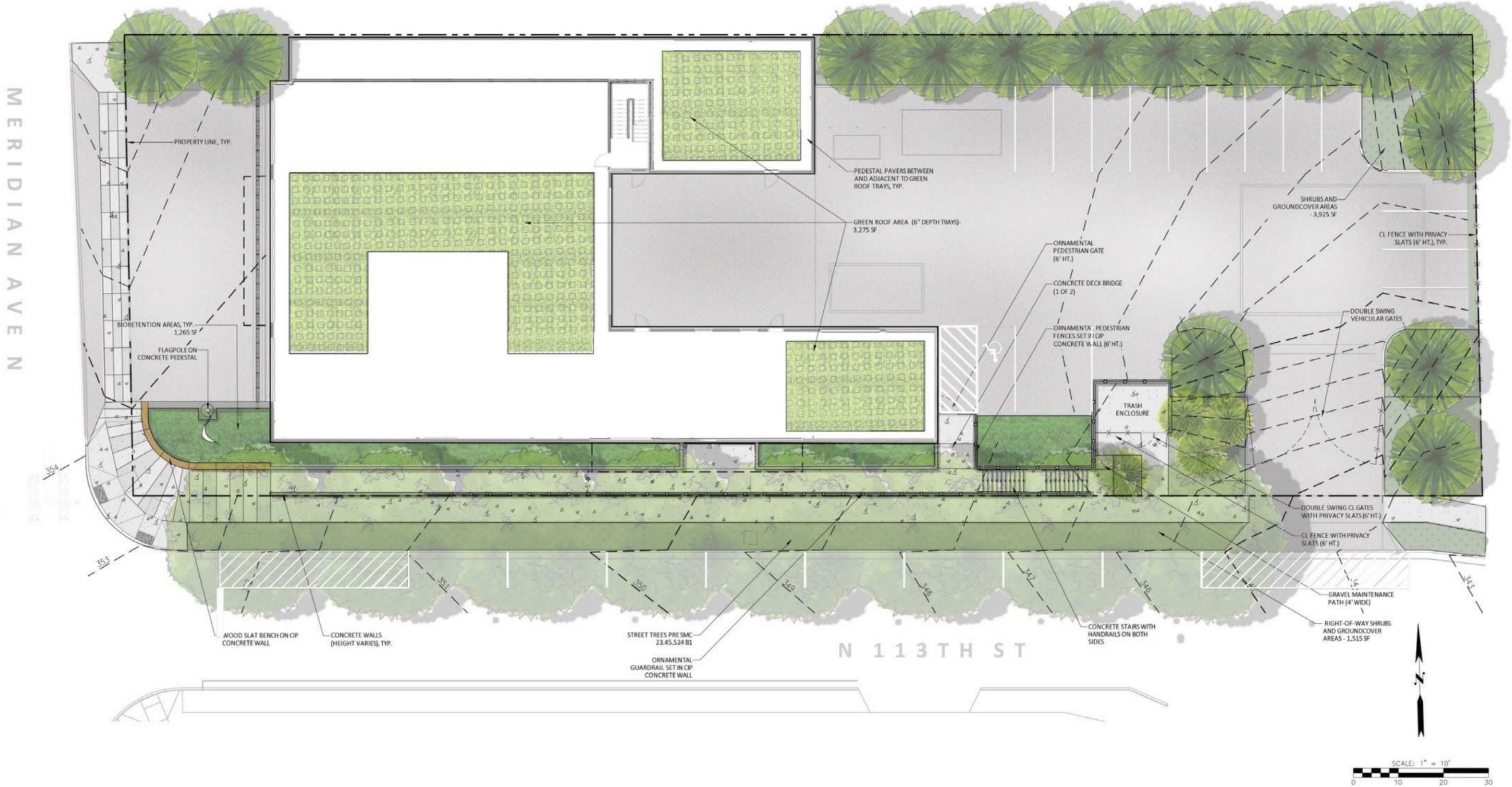
# SITE SECTION



# SITE SECTION



# LANDSCAPE PLAN



# LANDSCAPE DEVELOPMENT



# LANDSCAPE DEVELOPMENT



concrete planks over bioretention area



horizontal board form finish



vertical board form finish



vertical groove finish

# LANDSCAPE DEVELOPMENT



concrete planks over bioretention area



horizontal board form finish



vertical board form finish

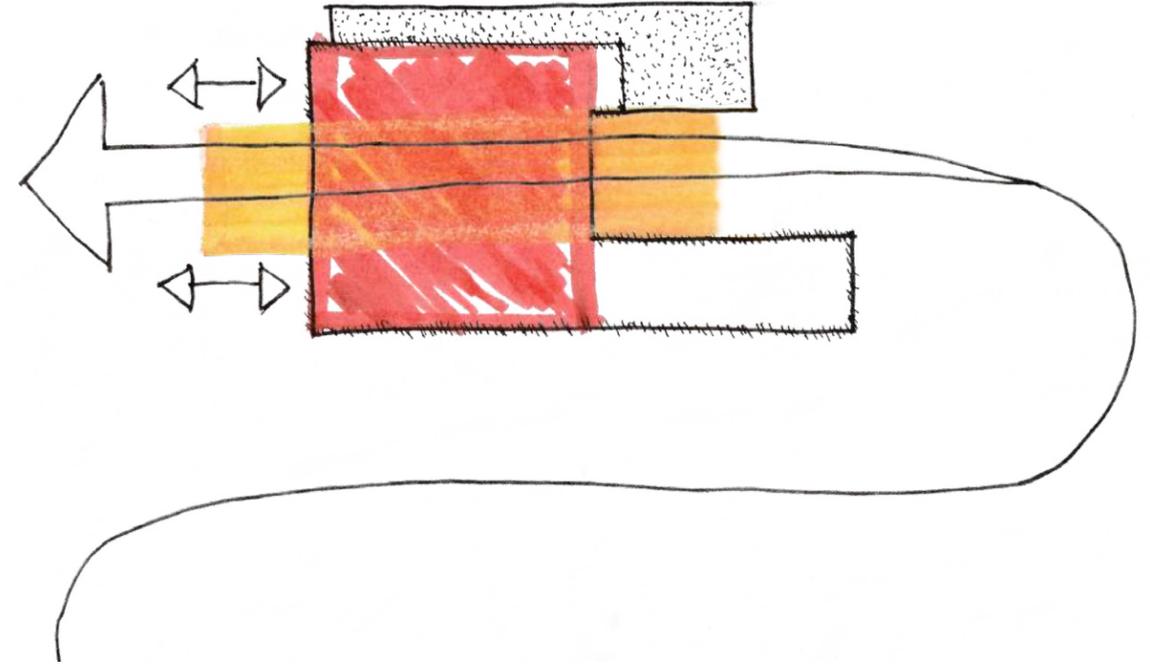
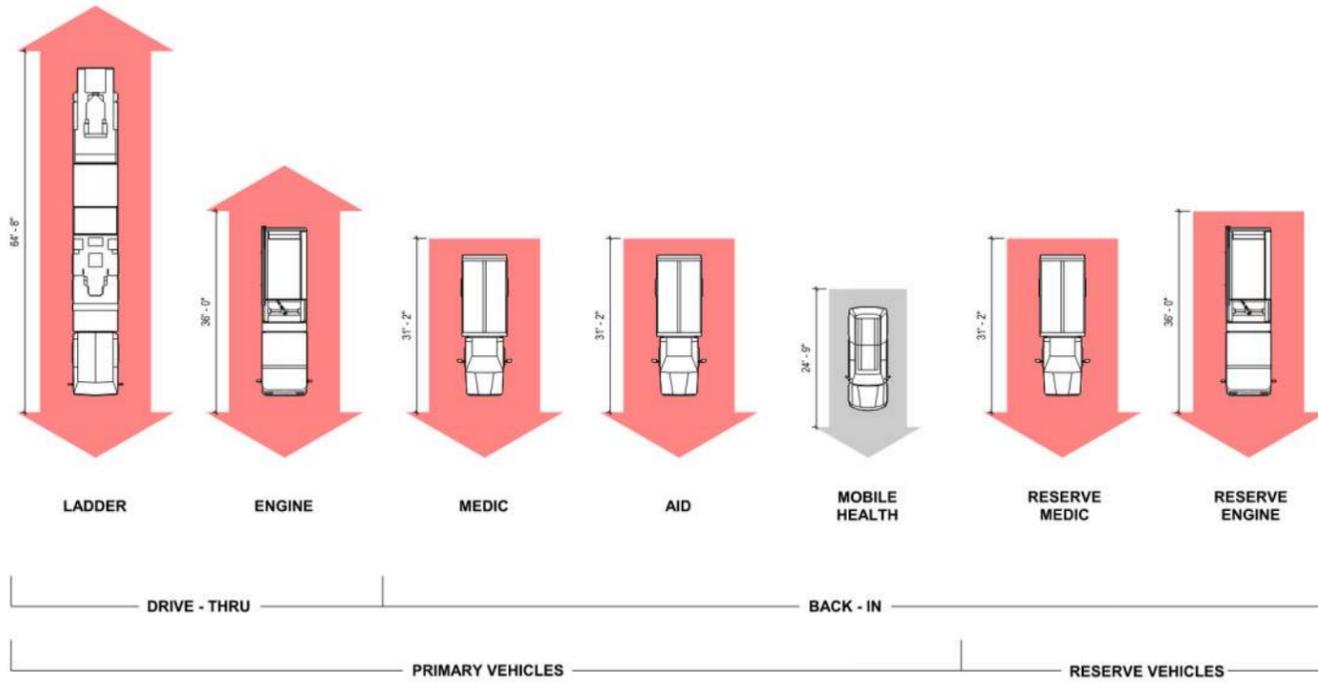


vertical groove finish

# BUILDING DESIGN



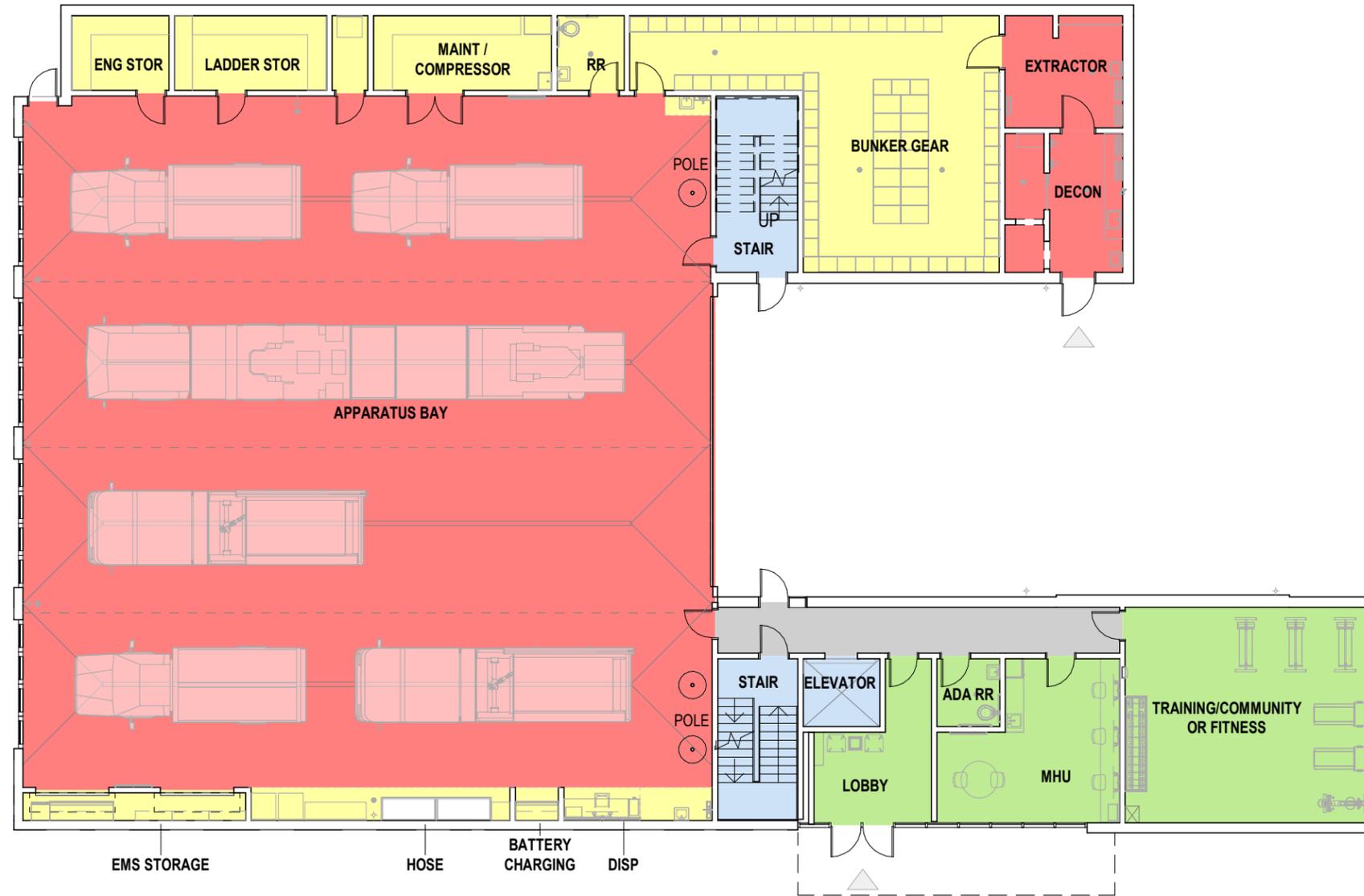
# CONCEPT



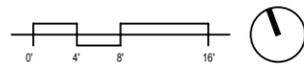
FIRE STATION 31 APPARATUS

CONCEPT SKETCH

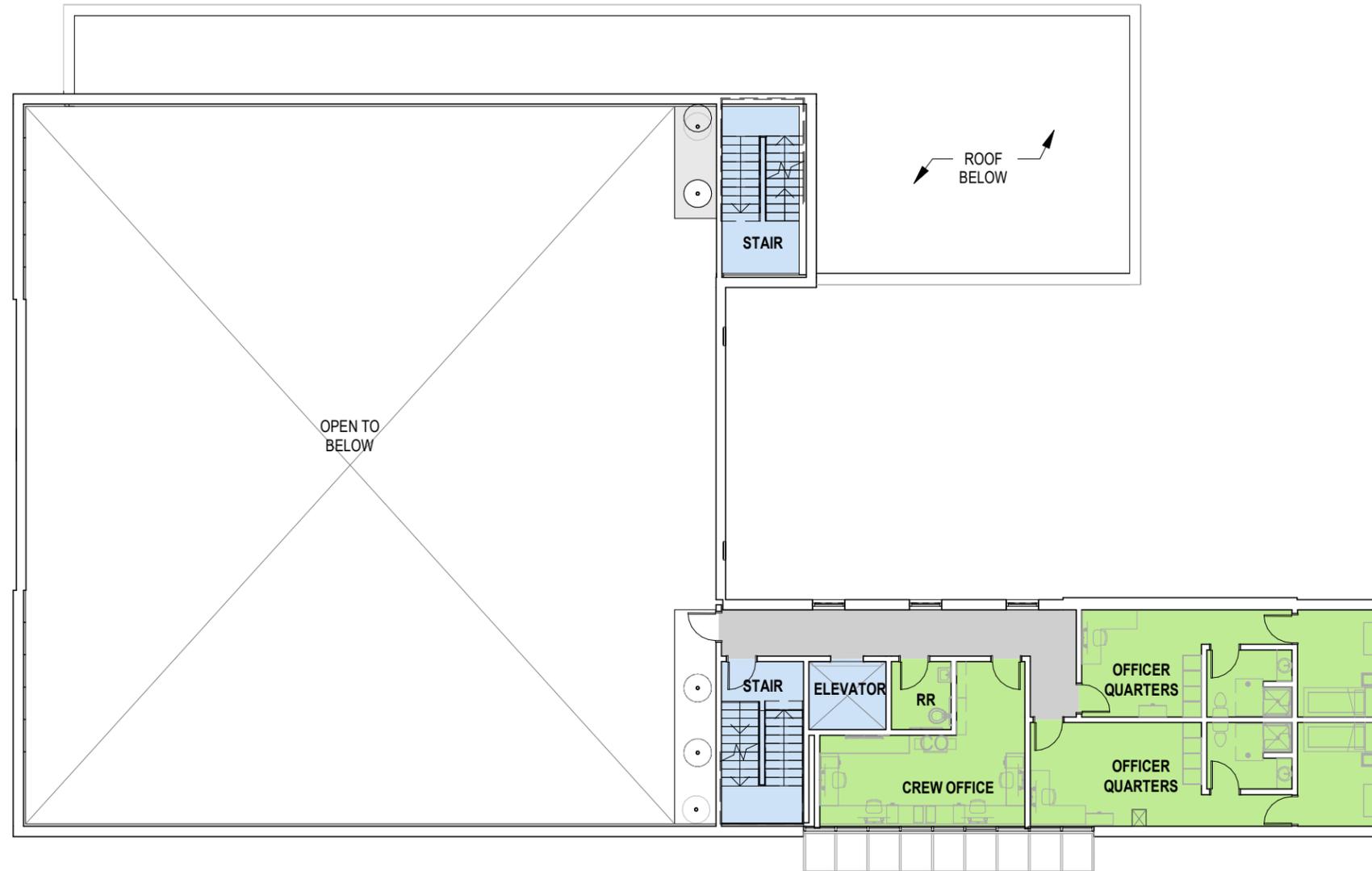
# FLOOR PLANS



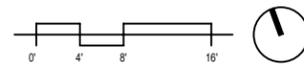
LEVEL 1



# FLOOR PLANS



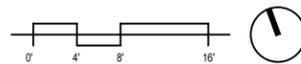
LEVEL 2



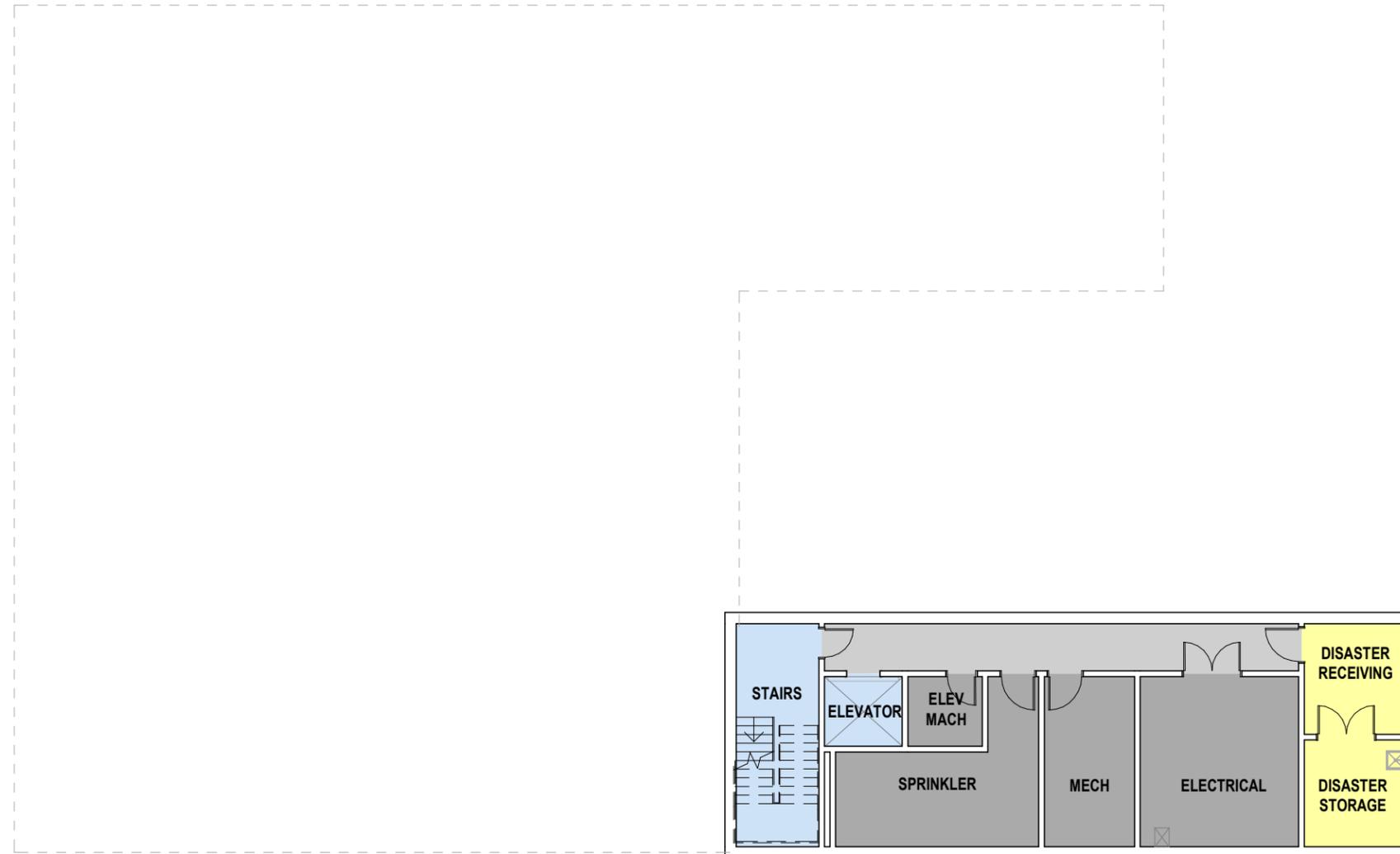
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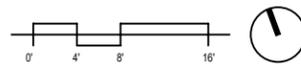
LEVEL 3



# FLOOR PLANS



BASEMENT



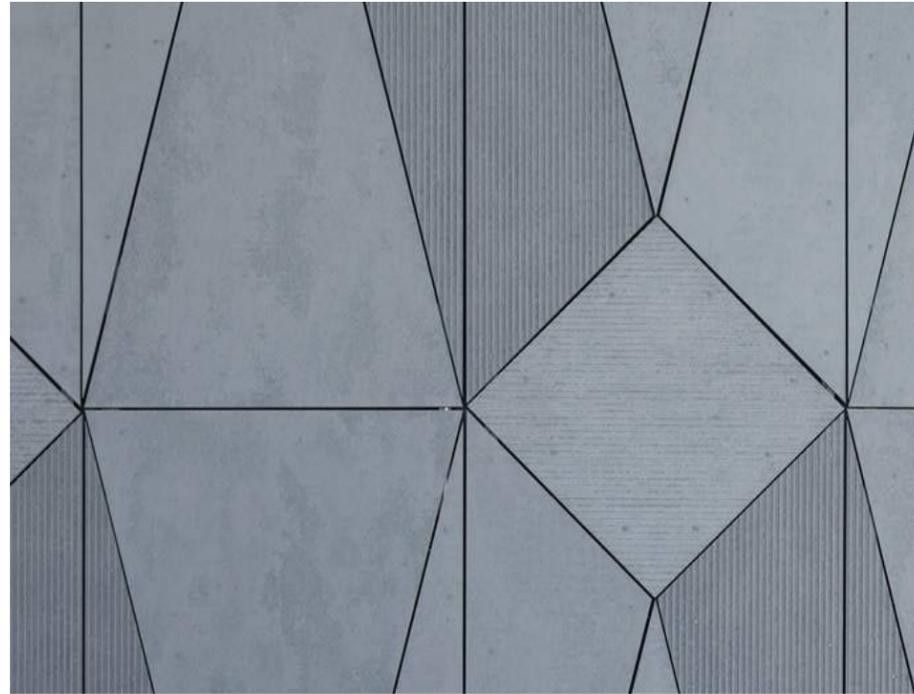
# PERSPECTIVE FROM STREET CORNER



# MATERIAL PALETTE



BOARD & BATTEN WEATHERED WOOD



TEXTURED FIBER CEMENT PANEL



TRANSPARENCY AT APPARATUS BAYS - MERCER ISLAND FS 92  
*Miller Hull Partnership*



WEATHERED WOOD AT FACADE - MULTNOMAH COUNTY  
*Hennebery Eddy Architects*



WARM WOOD TONES AT FACADE - MERCER ISLAND FS 92  
*Miller Hull Partnership*



TRANSPARENCY AT ACTIVE AREAS - MERCER ISLAND FS 92  
*Miller Hull Partnership*

# WEST ELEVATION



# SOUTH ELEVATION



# PERSPECTIVE AT MAIN ENTRY



# PERSPECTIVE FROM SOUTHEAST



# AERIAL PERSPECTIVE FROM NORTHEAST



# PERSPECTIVE FROM STREET CORNER



# THANK YOU



Seattle

